REMARKS

Claims 1-84 are pending and are unamended. Withdrawal of all objections and rejections are respectfully requested for at least the reasons set forth below.

Prior Art Rejections

Claims 1, 4-5, 29, 32-33, 57 and 60-61 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,332,110 (Wolfe).

1. Present invention vs. Wolfe

a. Wolfe is not a water distribution system

The present invention is not directed to a method of monitoring advanced separation and/or ion exchange processes, which is the subject matter of Wolfe. Instead, the present invention is directed to a computer-implemented method, article of manufacture and apparatus for rating pipe segments in a water distribution system.

In a water distribution system, water is delivered to its destination (e.g., homes and businesses) through a series of pipes or pipe segments. In an ion exchange process associated with a water treatment system, water is passed through different types of equipment and is processed by the equipment. See, for example, Appendix A which shows ion exchange systems and equipment from Remco Engineering. In a separation process associated with a water treatment system, materials are extracted from water by different types of equipment (e.g., filters). Thus, in the advanced separation and/or ion exchange processes described in Wolfe, water is collected and processed, as opposed to being delivered or distributed. The goal of a system such as described in Wolfe might be to provide treated water (e.g., column 5, line 19) to a water distribution system, but Wolfe has no such disclosure of an actual water distribution system or the monitoring of such a system. Stated simply, Wolfe is not a "water distribution system" as that term is used in the pending application and as that term would be understood by an artisan viewing the present invention.

b. Wolfe does not define pipe segments or hydrants or store data regarding pipe segments or hydrants

A water distribution system can be defined by a plurality of pipe segments and hydrants that make up the key elements of the system. An advanced separation and/or ion exchange process as described in Wolfe contains many key stages and pieces of equipment. However, such processes are not defined by pipe segments or hydrants. In fact, no pipes, pipe segments or hydrants are even discussed in Wolfe. An advanced separation and/or ion exchange process undoubtedly will include pipes and pipe segments to connect various stages of the process to one another and to deliver and remove elements to and from the process. However, the status of the pipes and pipe segments themselves are not specifically monitored.

c. Wolfe does not disclose or suggest storing maintenance tasks or inspections performed on any pipe segments within an advanced separation and/or ion exchange process.

Column 4, lines 8-36 of Wolfe describes a data collection process associated with an advanced separation and/or ion exchange process, and reads as follows:

Data is first collected by the use of sensors and on-line analytical devices from numerous locations on a water treatment system. For instance, a typical micro filter or reverse osmosis sensor group would include, but is not limited to: raw water temperature, conductivity, PH, pressure, and turbidity; permeate flow, turbidity, pressure, and conductivity; concentrate flow and pressure as well as on/off operation of the operating pump. The data generated by the sensors and on-line liquid devices are forwarded to a data capture module or programmable controller 10 which performs the required analog to digital conversion for use in transmitting data files 12 and 14 to a main server located off-site by use of local Internet access. Date files may also be transferred by modem to a processing site. The local data capture module, or programmable controller 10, continuously scans sensor data inputs and automatically logs and archives operating data at specified intervals. System operation for real time monitoring 16 by accessing an Internet web site 18 specifically set up for a particular customer. The data is also manipulated by the data computer 20 with ftp uploads wherein operating parameters are displayed graphically in a tabular format which are color coded to provide an indication of normal operation, warning status or alarm conditions. The information from the sensors are used for determining critical information for the proper evaluation of reverse osmosis membrane performance per (salt rejection,

> permeate flow; feed/brine average rejection and simple rejection) which is normalized in accordance with AST Standards and graphically displayed for performance evaluation, preventative maintenance, scheduling, or for trouble shooting.

As discussed above, Wolfe does not define pipe segments and then store maintenance tasks and inspections performed <u>on</u> the pipe segments. Instead, Wolfe collects and stores data at various sensors and devices in the system (which may or may not be in a pipe). If any sensor or device is associated with a pipe, the collected data relates to what is <u>in</u> the pipe, not to the pipe itself or any maintenance tasks or inspections performed on the pipe.

Wolfe may use sensor information to decide when to perform preventive maintenance, scheduling or trouble shooting of equipment in the system. Wolfe is thus completely opposite of the present invention in that sensor data is used to decide when or if to perform maintenance tasks or inspections of system equipment, whereas the present invention directly monitors any work done on pipe segments to decide the likely condition (as reflected in a point value) of the pipes themselves.

d. The equipment in Wolfe is not rated based on a combination of water quality factors and service interruption factors

As discussed above, there are no defined pipe segments in Wolfe, and thus Wolfe cannot assign points to pipe segments based on the presence of water quality factors and service interruption factors.

Wolfe arguably measures water quality factors and arguably measures service factor interruptions (e.g., system failures and shutdowns). However, no point system or equivalent rating system is defined which uses water quality factors <u>and</u> service interruption factors. The historical performance data and alarm set points described in column 4, lines 37-55 of Wolfe are not constructed using a combination of water quality factors <u>and</u> service interruption factors. In sum, neither pipes nor even any elements of a system using Wolfe are rated in any manner based on water quality factors <u>and</u> service interruption factors.

2. Patentability of independent claims 1, 29 and 57

For at least the reasons discussed above, Wolfe does not disclose or suggest at least any of the underlined elements in the preamble or in any of the steps (a), (c) or (d) of the present invention:

> 1. A computer-implemented method of <u>rating pipe segments</u> in a <u>water distribution system</u>, the <u>water distribution system including pipe segments and hydrants</u>, the method comprising:
> (a) storing in an electronic database information gathered from <u>maintenance tasks and inspections performed on the pipe segments and hydrants within the water distribution system;</u>
> (b) analyzing the information in the electronic database for a specified period of time to determine the presence of water quality factors and service interruption factors;
> (c) <u>assigning points to the pipe segments based on the presence of the water quality factors and service interruption factors;</u> and
> (d) <u>rating the pipe segments based on the total points assigned to the pipe segments.</u>

Similar arguments pertain to corresponding independent claims 29 and 57.

Applicant has carefully reviewed the Examiner's Office Action and the portions of Wolfe highlighted by the Examiner but cannot find any relevant comparison of the highlighted portions to the claimed steps.

To render a method claim as being obvious, a reference or combination of references must disclose or suggest each and every step in the claim. Here, the applied reference fails to disclose or suggest almost all of the steps in the independent claims. Accordingly, the rejection of the independent claims over the applied reference should be withdrawn.

3. Patentability of Dependent Claims 4-5, 32-33 and 60-61

The dependent claims are believed to be allowable because they depend upon respective allowable independent claims, and because they recite additional patentable steps.

Conclusion

Insofar as the Examiner's rejections were fully addressed, the instant application is in condition for allowance. Issuance of a Notice of Allowability of all pending claims is therefore earnestly solicited.

Respectfully submitted,

KEVIN B. KIRWAN

July 30, 2004   By: Clark Jablon
(Date)

CLARK A. JABLON
Registration No. 35,039
AKIN GUMP STRAUSS HAUER & FELD LLP
One Commerce Square
2005 Market Street, Suite 2200
Philadelphia, PA 19103-7013
Telephone: 215-965-1200
Direct Dial: 215-965-1293
Facsimile: 215-965-1210
E-Mail: cjablon@akingump.com

Enclosure (Appendix A)

REMCO ENGINEERING
WATER SYSTEMS AND CONTROLS

Phone 805-658-0600	Fax 805-658-0667	HOME PAGE	

WATER TREATMENT

BOILER WATER
TREATMENT

REVERSE OSMOSIS

ION EXCHANGE

WASTEWATER
TREATMENT

WHOLE HOUSE
SYSTEMS

FILTRATION

SITE INDEX

HOME PAGE

SYSTEM CONTROLS

WHERE'S REMCO?

ION EXCHANGE SYSTEMS AND EQUIPME LITERATURE

Welcome to the Remco Engineering ion exchange system index page. The links will take you to reviews of our systems with information on demineralization recycling, metal removal and other ion exchangek processes.

- Ion Exchange metal removal and recovery systems (Review)
- Deionization and water softening systems
- Remco Ion Exchange Features Comparison
- Questions and Answers on Ion Exchange
- ION EXCHANGE BASICS (long)
- Chelate ion exchange resin demonstration - Before/After picture
- Ion Exchange Chemistry/Chelated Resins
- Cost Comparison for Various Recycling/Recovery Configurations (ion exchange, recycling, metal recovery and reverse osmosis)
- Metal Recovery Ion Exchange Process
- Simplex Regeneration Modules for Ion Exchange Resins
- Basic Ion Exchange Systems(Modular)
- Ion Exchange metal removal and recovery systems efficiency graph (24k gif)
- Power Purge(tm)Ion Exchange (Deionization)Regeneration Systems
- Point Source Ion Exchange Systems
- Gold Recovery Systems (using electrowinning and ion exchange)
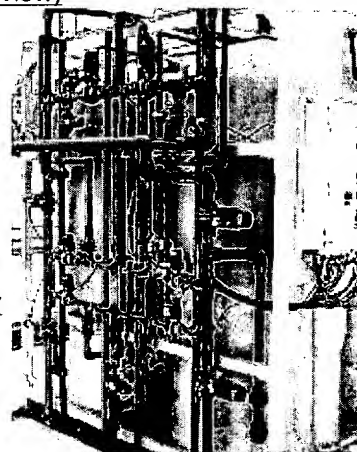
APPENDIX A

(Application No. 09/668,081-Reply to Office Action of April 8, 2004)

WATER TREATMENT

(If you have a wastewater problem, go here.)

Homeowners, see below.

Welcome to Remco Engineering's website. We design, manufacture and sell industrial and commercial water and wastewater treatment systems. You are probably here because you have some problem with your water source. This portion of our site is here to help you determine the type of treatment process that is best and most cost effective for your particular problem. There are many links here, use the back key (Alt and Left Arrow) to get back here. Most links are to government sites because they tend to be impartial. If we find a commercial site with good information on water treatment, we will provide a link. If you run across a good water treatment link that should be here, send us an e-mail with the link. If you get lost here and can't find what you want, e-mail or call us and we will try to help.
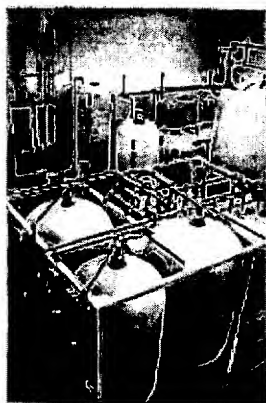
To browse our product line, either go to our home page or see our literature index for links to our extensive literature files. We have a very detailed description of the ion exchange process and a long question and answer file on reverse osmosis.

We design and manufacture complete, integrated, and fully automated systems with data collection and remote access. We have systems installed and running on 4 continents providing everything from water for a juice bottler in Uganda, Drinking water in Nigeria, wastewater treatment for a Printed Circuit Facility in China, to rain water runoff protection for an Army Corps of Engineers lock and Dam in Pennsylvania.

Send us the analysis and daily flow requirements and we can give you a good selection of treatment options. You can use this form.

If you are:

- an industrial user with boiler, cooling tower, or rinsing problem;
- a commercial user such as a hotel, water store, restaurant, or wash/cleaning process line;
- a community with problem well or surface water contaminant;
- or a hospital, village, or a 1-700 gpm user that needs a safe water supply,

then we probably have a cost effective solution for you.

For those interested in Potable (Drinking) Water we have custom treatment and repressurization systems. We design and manufacture reverse osmosis, clarification, filtration, ion exchange, and pumping systems. You can submit a water analysis and request for quotation here. If you need a quick price for a bid package, send us an e-mail (below) with the specification.

Potable (Drinkable) Water Treatment Links:

EPA Drinking Water Standards

Drinking Water Contaminants

If your water is provided by an agency, you annual water quality report may be located here:
this will list the main parameter in your drinking water.

If you are a HOMEOWNER and looking for a whole house water treatment system, go here. Whole house units run US$ 5,000 to 10,000+ depending on how difficult the water is to treat. We don't make or sell undersink units. You can also visit the links below for potable water treatment links. We will be glad to make suggestions to help you fix a problem yourself even if you don't want a whole house system. Please use e-mail.

If you want the correct solution, you should do a lot of reading and once you are comfortable with the terminology, e-mail or call us and we'll see if you can help you. The first thing you should do is get a good water analysis. If you are a commercial or industrial user on a well, an EPA certified lab should be used. If you are a homeowner or very small business on a well, you can usually get the local agricultural extension service to either run the analysis or tell you where you can get it done at a reasonable cost. If you are delivered water by an agency (municipal), your annual water quality report may be located here. This report will list the main salts and organics (if any) in your drinking water.